

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 22 DEC 2005

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Applicant's or agent's file reference 21017134	<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/EP2004/012999	International filing date (day/month/year) 17.11.2004	Priority date (day/month/year) 20.11.2003	
International Patent Classification (IPC) or national classification and IPC D21F1/48, D21F1/52, D21F3/10			
Applicant BTG ECLEPENS S.A. et al.			
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 5 sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 2 sheets, as follows: <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).			
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I      Basis of the opinion <input type="checkbox"/> Box No. II     Priority <input type="checkbox"/> Box No. III    Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV    Lack of unity of invention <input checked="" type="checkbox"/> Box No. V     Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI    Certain documents cited <input checked="" type="checkbox"/> Box No. VII    Certain defects in the international application <input type="checkbox"/> Box No. VIII   Certain observations on the international application			
Date of submission of the demand  02.09.2005		Date of completion of this report  20.12.2005	
Name and mailing address of the international preliminary examining authority:  <div style="display: flex; align-items: center;"> <div>                         European Patent Office                          D-80298 Munich                          Tel. +49 89 2399 - 0 Tx: 523656 epmu d                          Fax: +49 89 2399 - 4465                     </div> </div>		Authorized Officer  Pregetter, M  Telephone No. +49 89 2399-8379	



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/EP2004/012999

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-17 as originally filed

**Claims, Numbers**

1-9 filed with the demand

**Drawings, Sheets**

1/2, 2/2 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing *(specify)*:
- ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing *(specify)*:
- ☐ any table(s) related to sequence listing *(specify)*:

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/EP2004/012999

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	1-9
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: EP-A-0576115  
D2: GB-A-1526377  
D3: WO-A-0048747  
D4: WO-A-9730212

2. Document D1 discloses (cf. in particular page 3, lines 19-25, page 4, line 54-page 5, line 9; page 11, line 1-page 12, line 35):

Present claim 1 defines a dewatering element for the wet end of a paper-making machine, said dewatering element having a sliding surface for contacting a forming screen, said sliding surface being made from a material that comprises an elastomeric polymer matrix, and a filler added to said matrix at a level of 10 to 50 percent per weight, wherein the material has a hardness according to Shore A between 60 and 85.

Document D1 discloses a corresponding material for the purpose of coating a transfer belt in the press section of a papermaking-machine.

Documents D2, D3 and D4 disclose dewatering elements having a material comprising an elastomeric polymeric matrix and filler added.

There is no indication with respect to the composition and properties of the material as defined in claim 1 in any of the documents cited in the search report.

Document D2 discloses a hardness value falling under the scope of present claim 1, but merely adds a very small amount of filler.

Documents D3 and D4 give a percentage of the filler added falling under the scope of

claim 1, but do not give values for the hardness.

By the material as defined in claim 1 of the present application, the wear of the fabric and the vulnerability of the dewatering element can be decreased.

The industrial applicability of the dewatering element according to claim 1 is obvious.

Therefore, the subject-matter of present claim 1 meets the requirements of Article 33 PCT.

3. Claims 2-9 define additional features of the invention according to claim 1 and as such also meet the requirements of the PCT with respect to novelty, inventive step and industrial applicability with respect to the cited prior art.

**Re Item VII**

**Certain defects in the international application**

1. Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from documents D2 being placed in the preamble (6.3(b)(i) PCT) and with the remaining features being included in the characterizing part (6.3(b)(ii) PCT).
2. To meet the requirements of Rule 5.1(a)(ii) PCT, the document D1 should have been identified in the description and the relevant background art disclosed therein should have been briefly discussed.

CLAIMS

1. A dewatering element for the wet end of a paper-making machine, said dewatering element having a sliding surface for contacting a forming screen, said sliding surface being made from a material that comprises an elastomeric polymer matrix and a filler added to said matrix at a level of 10 to 50 percent by weight, wherein the material has a hardness according to Shore A between 60 and 85.
2. The dewatering element of claim 1, wherein said elastomeric polymer matrix comprises a material selected from polyurethane, polyurea, styrene-butadiene rubber, ethylene propylene diene monomer (EPDM), nitrile rubber, natural or synthetic rubbers, polychloroprene, polyacrylates, fluorine-containing elastomers, thermoplastic elastomers and polysiloxanes.
3. The dewatering element of claim 2, wherein the polymer matrix comprises polyurethane.
4. The dewatering element of claim 1, wherein the filler is a low hardness filler.
5. The dewatering element of claim 1, wherein the filler is a solid lubricant.
6. The dewatering element of claim 1, wherein the filler comprises a material selected from poly(tetrafluoroethylene), talcum, powders of ultra high molecular weight polyethylene (UHMWPE), clay (kaolin), calcium carbonate, boron nitride, molybdenum sulfide, calcium fluoride, titanium dioxide, titanium carbide, glass beads and ceramic beads.

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7. The dewatering element of claim 4, wherein the filler is a low hardness filler selected from poly(tetrafluoroethylene) and talcum.
- 5 8. The dewatering element of any one of the preceding claims, wherein the filler is added at a level of 10 to 40 percent by weight, preferably 15 to 30 percent by weight.
- 10 9. The dewatering element of any one of the preceding claims, wherein the material for the sliding surface has a hardness according to Shore A between 70 and 80.